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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,243	05/31/2001	Robert Angelo Mercuri	P-1038	8204

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WARE FRESSOLA VAN DER SLUYS &
ADOLPHSON, LLP
BRADFORD GREEN BUILDING 5
755 MAIN STREET, P O BOX 224
MONROE, CT 06468

EXAMINER	
NGUYEN, KIMBERLY T	
ART UNIT	PAPER NUMBER

1774

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/871,243	MERCURI ET AL.
	Examiner	Art Unit
	Kimberly T. Nguyen	1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) 14-20 is/are withdrawn from consideration.

5) Claim(s) ____ is/are allowed.

6) Claim(s) 1-13 is/are rejected.

7) Claim(s) ____ is/are objected to.

8) Claim(s) 1-27 are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. ____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

4) Interview Summary (PTO-413) Paper No(s). ____.

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

5) Notice of Informal Patent Application (PTO-152)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

6) Other: ____.

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-13, drawn to a material, classified in class 428, subclass 212.
- II. Claims 14-27, drawn to a process for preparing a composite material, classified in class 25, subclass 25.41.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by a materially different process such as laminating or adhering the flexible graphite sheets together instead of using pressure..

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Wayne Beavers on August 15, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claim1-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-27 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

Claim 9 is objected to because of the following informalities: Claim 9 is in improper Markush format. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5, 8, and 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the property". There is insufficient antecedent basis for this limitation in the claim.

In claim 3, it is unclear what is meant by the phrase "and the like."

In claims 4 and 5, it is unclear which set of the "at least one plurality of zones" that Applicants are referring to in showing the thickness.

Claims 8 and 11 recite the limitation "said plurality of *layers*". There is insufficient antecedent basis for this limitation in the claim. For purposes of examination, the layers will be interpreted to mean layers of the flexible graphite sheets.

The term "diverse" in claim 8 is a relative term which renders the claim indefinite. The term "diverse" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In claim 10, it is not clear if *only* the sheet is nonporous or whether the sheet, film, *and* foil are nonporous.

Claims 12 and 13 recite the limitation "the resin". There is insufficient antecedent basis for this limitation in the claim.

In claim 13, it is not clear how the "resin" can comprise the "resin systems."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Mercuri et al., U.S. Pat. No. 5,902,762.

Mercuri shows a flexible graphite composite for use in gaskets comprising a resin-impregnated flexible graphite sheet of about 0.1 mm (claim 2) and regions of randomly embedded ceramic fibers (zones with different characteristics, i.e. presence and composition of

filler materials) (column 2, lines 1-67). Mercuri further shows 0.01 inch thick sheets of the flexible graphite (column 3, lines 29-35) and that the sheets are impregnated with about 17-19% of phenolic resin (column 4, lines 9-27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mercuri et al., U.S. Pat. No. 5,902,762.

Mercuri is relied upon as above for claim 1. Mercuri does not specifically show that the difference in the concentration or presence of the embedded ceramic fibers is greater than about 5% as in instant claim 6. Mercuri does not show that the graphite sheet has an area weight of from about 0.001 to about 2.0 g/cm² as in instant claim 7. Though Mercuri shows that the density of the sheets is 1.5 gms/cc (column 4, lines 14-20), Mercuri does not show that the density of the regions of the ceramic fibers is at least 1.1 g/cc and that the graphite sheets has a density of less than about 1.0 g/cc as in instant claim 11.

However, such a ranges and percentages are properties which can be easily determined by one of ordinary skill in the art. With regard to the limitation of the ranges and percentages, absent a showing of unexpected results, it is obvious to modify the conditions of a composition because they are merely the result of routine experimentation. The experimental modification of prior art in order to optimize operation conditions (e.g. ranges and percentages) fails to render

claims patentable in the absence of unexpected results. All of the aforementioned limitations are result effective as they control the amount of sealability, resin impregnation, and mechanical strength of the graphite sheets. As such, they are optimizable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the graphite sheets with the limitations of the percentages and ranges since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mercuri et al., U.S. Pat. No. 5,902,762 in view of Aoki et al., U.S. Pat. No. 5,859,761.

Mercuri is relied upon as above for claims 1 and 12. Mercuri does not show that the graphite layers sandwich a layer of a diverse material as in instant claim 8.

Aoki shows an electric double-layer capacitor comprising a pair of solid activated-carbon electrodes and a sheet-like, porous separator sandwiched between the electrodes such as plastic or glass fibers (Abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the graphite sheets of Mercuri in the capacitor of Aoki with the separator located between the sheets because it is known that such a separator is useful for preventing conductivity between the sheets in a capacitor.

Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mercuri et al., U.S. Pat. No. 5,902,762 in view of Aoki et al., U.S. Pat. No. 5,859,761 in further view of Boos et al., U.S. Pat. No. 3,648,126.

Mercuri and Aoki are relied upon as above for claims 1 and 8. Mercuri and Aoki do not show a fabric, web, or foil as a diverse material as in instant claim 9 or that a diverse material

comprises a nonporous sheet, film or foil as in instant claim 10. Boos shows an electrical capacitor comprising a pair of electrodes and a separator comprising nonporous ion-conducting film, porous polyvinyl chloride, glass fiber filter paper, and fiber glass cloth (column 2, lines 40-61). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the separators of Boos because they are functional equivalents to the separators of Aoki and are effectively used in capacitors.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly T. Nguyen whose telephone number is (703) 308-8176. The examiner can normally be reached on Monday to Friday, except on every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Kimberly T. Nguyen
Examiner
September 25, 2002

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

